DOCKETED		
Docket Number:	22-AAER-02	
Project Title:	Repeal of Portable Luminaires	
TN #:	249886	
Document Title:	Notice of Approval of Regulatory Action	
Description:	Notice of Approval of Regulatory Action from the Office of Administrative Law, Final Form 400, and Final Regulatory Text. The effective date of this rulemaking is April 25, 2023.	
Filer:	Carlos Baez	
Organization:	California Energy Commission	
Submitter Role:	Commission Staff	
Submission Date:	4/26/2023 3:50:45 PM	
Docketed Date:	4/26/2023	

State of California Office of Administrative Law

In re: California Energy Commission

Regulatory Action:

Title 20, California Code of Regulations

Amend sections: 1601, 1602, 1604, 1605, 3, 1606 NOTICE OF APPROVAL OF REGULATORY ACTION

Government Code Section 11349.3

OAL Matter Number: 2023-0321-01

OAL Matter Type: Regular (S)

This action repeals the portable luminaires appliance type from the Appliance Efficiency Regulations.

OAL approves this regulatory action pursuant to section 11349.3 of the Government Code. This regulatory action becomes effective on 4/25/2023.

Date: April 25, 2023

Amohom

Ashita Mohandas Attorney

For: Kenneth J. Pogue Director

Original: Drew Bohan, Executive Director Copy: Corrine Fishman

0, 400 (REV. 10/2019)	NLUUL			
DAL FILE NOTICE FILE NUMBER	REGULATORY ACTION NUMBER 2023-0321-0			
For use b	Dy Office of Administrative Law (OAL) only OFFICE OF 2023 MAI	F ADMIN. LAW R 21 AM10:36	ENDORSED - FILED In the office of the Secretary of State of the State APR 25 2023 1:50 PM Friefan M	
NOTICE	F	REGULATIONS		
AGENCY WITH RULEMAKING AUTHORITY California Energy Commision			AGENCY FILE NUMBER (If any) 22-AAER-02	
. PUBLICATION OF NOTICE (C	omplete for publication in Notic	ce Register)		
SUBJECT OF NOTICE	TITLE(S)	FIRST SECTION AFFECTED	2. REQUESTED PUBLICATION DATE November 11, 2022	
NOTICE TYPE Notice re Proposed Regulatory Action Other	4. AGENCY CONTACT PERSON Corrine Fishman	TELEPHONE NUMBER 916 805 7452	FAX NUMBER (Optional)	
OAL USE ACTION ON PROPOSED NOTICE	pproved as Disapproved/	NOTICE REGISTER NUMBER	PUBLICATION DATE	
SUBJECT OF REGULATION(S) Sepeal of Portable Luminaires Reg SPECIFY CALIFORNIA CODE OF REGULATIONS TI SECTION(S) AFFECTED	gulations	1b. ALL PREVIOUS RELATED	OAL REGULATORY ACTION NUMBER(S)	
a. SUBJECT OF REGULATION(S) Repeal of Portable Luminaires Reg SPECIFY CALIFORNIA CODE OF REGULATIONS TI SECTION(S) AFFECTED (List all section number(s) individually. Attach Idditional sheet if needed.) ITTLE(S) REPEAL	gulations ITLE(S) AND SECTION(S) (Including title 26, if toxics 1602, 1604, 1605.3, 1606	1b. ALL PREVIOUS RELATED	O OAL REGULATORY ACTION NUMBER(S)	
a. SUBJECT OF REGULATION(S) Repeal of Portable Luminaires Reg SPECIFY CALIFORNIA CODE OF REGULATIONS TI SECTION(S) AFFECTED (List all section number(s) individually. Attach dditional sheet if needed.) ITLE(S) Regular Rulemaking (Gov. Code §11346) Resubmittal of disapproved or withdrawn nonemergency filing (Gov. Code §§11349.3, 11349.4) Emergency (Gov. Code, §11346.1(b)) ALL BEGINNING AND ENDING DATES OF AVAILABE	gulations ITLE(S) AND SECTION(S) (Including title 26, if toxics 1602, 1604, 1605.3, 1606 ificate of Compliance: The agency officer named w certifies that this agency complied with the isions of Gov. Code §§11346.2-11347.3 either re the emergency regulation was adopted or in the time period required by statute. ubmittal of disapproved or withdrawn irgency filing (Gov. Code, §11346.1) BILITY OF MODIFIED REGULATIONS AND/OR MATER	1b. ALL PREVIOUS RELATED 1b. ALL PREVIOUS RELATED 3 related) i Emergency Readopt (Gov. Code, §11346.1(h)) File & Print Other (Specify) RIAL ADDED TO THE RULEMAKING FILE (O OAL REGULATORY ACTION NUMBER(S) Changes Without Changes Without Regulatory Effect (Cal. Code Regs., title 1, §100) Print Only Cal. Code Regs. title 1, §44 and Gov. Code §11347.1)	
a. SUBJECT OF REGULATION(S) Repeal of Portable Luminaires Reg SPECIFY CALIFORNIA CODE OF REGULATIONS TI SECTION(S) AFFECTED (List all section number(s) individually. Attach dditional sheet if needed.) ITTLE(S) Code §11346) Regular Rulemaking (Gov. Code §11349.4) Emergency (Gov. Code, §11349.4) Effective January 1, April 1, July 1, or October 1 (Gov. Code §11343.4(a)) C. HECK IF THESE REGULATIONS REQUIRE NOTIC Department of Finance (Form STD. 399) (S	gulations ITLE(S) AND SECTION(S) (Including title 26, if toxics 1602, 1604, 1605.3, 1606 ificate of Compliance: The agency officer named w certifies that this agency complied with the isions of Gov. Code §§11346.2-11347.3 either re the emergency regulation was adopted or in the time period required by statute. ubmittal of disapproved or withdrawn regency filing (Gov. Code, §11346.1) BILITY OF MODIFIED REGULATIONS AND/OR MATER 1343.4, 11346.1(d); Cal. Code Regs., title 1, §100) Effective on filing with \$100 Change Secretary of State CE TO, OR REVIEW, CONSULTATION, APPROVAL OF SAM §6660)	1b. ALL PREVIOUS RELATED 1b. ALL PREVIOUS RELATED 1c related) 1c related) 1d Emergency Readopt (Gov. Code, §11346.1(h)) 1 File & Print 1 Other (Specify) RIAL ADDED TO THE RULEMAKING FILE (25 Without Effective other 16 CONCURRENCE BY, ANOTHER AGENCE Practices Commission	O OAL REGULATORY ACTION NUMBER(S) Changes Without Changes Without Code Regs., title 1, §100) Print Only Cal. Code Regs. title 1, §44 and Gov. Code §11347.1) Cal. Code Regs. title 1, §44 and Gov. Code §11347.1) Cal. Code Regs. title 1, §44 and Gov. Code §11347.1) Cal. Code Regs. title 1, §44 and Gov. Code §11347.1) Cal. Code Regs. title 1, §44 and Gov. Code §11347.1) Cal. Code Regs. title 1, §44 and Gov. Code §11347.1) Cal. Code Regs. title 1, §44 and Gov. Code §11347.1) Cal. Code Regs. title 1, §44 and Gov. Code §11347.1) Cal. Code Regs. title 1, §44 and Gov. Code §11347.1) Cal. Code Regs. title 1, §44 and Gov. Code §11347.1) Cal. Code Regs. title 1, §44 and Gov. Code §11347.1)	
a. SUBJECT OF REGULATION(S) Repeal of Portable Luminaires Reg SPECIFY CALIFORNIA CODE OF REGULATIONS TI SECTION(S) AFFECTED (List all section number(s) individually. Attach additional sheet if needed.) IfTLE(S) Code §11346) Resubmittal of disapproved or withdrawn nonemergency filing (Gov. Code, §11349.4) Emergency (Gov. Code, §11349.4) Emergency (Gov. Code, §11346.1(b)) ALL BEGINNING AND ENDING DATES OF AVAILABE EFFECTIVE DATE OF CHANGES (Gov. Code, §§ 11 Got. Code §11343.4(a)) Cotober 1 (Gov. Code §11343.4(a)) Cotober 1 (France (Form STD. 399) (S Other (Specify) CONTACT PERSON Corrine Fishman I certify that the attached copy of th of the regulation(s) identified on this is true and correct, and that I am th or a designee of the head of the ag	gulations ITLE(S) AND SECTION(S) (Including title 26, if toxics 1602, 1604, 1605.3, 1606 ificate of Compliance: The agency officer named w certifies that this agency complied with the isions of Gov. Code §§11346.2-11347.3 either re the emergency regulation was adopted or in the time period required by statute. ubmittal of disapproved or withdrawn regency filing (Gov. Code, §11346.1) SILITY OF MODIFIED REGULATIONS AND/OR MATER 1343.4, 11346.1(d); Cal. Code Regs. title 1, §100) Effective on filing with Secretary of State CE TO, OR REVIEW, CONSULTATION, APPROVAL OF SAM §6660) TELEPHONE NUMBER 916-805-7452 e regulation(s) is a true and correct cors s form, that the information specified core e head of the agency taking this actio ency, and am authorized to make this	1b. ALL PREVIOUS RELATED 1b. ALL PREVIOUS RELATED 1c. related) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 <td>O OAL REGULATORY ACTION NUMBER(S) Changes Without Changes Without Code Regs., title 1, §100) Code Regs., title 1, §100) Code Regs., title 1, §100) Cal. Code Regs. title 1, §44 and Gov. Code §11347.1) Cal. Code Regs. title 1, §44 and Gov. Code</td>	O OAL REGULATORY ACTION NUMBER(S) Changes Without Changes Without Code Regs., title 1, §100) Code Regs., title 1, §100) Code Regs., title 1, §100) Cal. Code Regs. title 1, §44 and Gov. Code §11347.1) Cal. Code Regs. title 1, §44 and Gov. Code	
A. SUBJECT OF REGULATION(S) Repeal of Portable Luminaires Reg SPECIFY CALIFORNIA CODE OF REGULATIONS TI SECTION(S) AFFECTED (List all section number(s) individually. Attach additional sheet if needed.) individually. Attach additional sheet if needed.) advector and the sector and	gulations ITLE(\$) AND SECTION(\$) (Including title 26, if toxics 1602, 1604, 1605.3, 1606 ificate of Compliance: The agency officer named w certifies that this agency complied with the isions of Gov. Code §§11346.2-11347.3 either re the emergency regulation was adopted or in the time period required by statute. ubmittal of disapproved or withdrawn rgency filing (Gov. Code, §11346.1) BILITY OF MODIFIED REGULATIONS AND/OR MATER 1343.4, 11346.1(d); Cal. Code Regs., title 1, §100) Effective on filing with \$1343.4, 11346.1(d); Cal. Code Regs., title 1, §100 Change Secretary of State CE TO, OR REVIEW, CONSULTATION, APPROVAL OF SAM §6660) Fair Political TELEPHONE NUMBER 916-805-7452 e regulation(s) is a true and correct cors s form, that the information specified cors e head of the agency taking this actio ency, and am authorized to make this DATE 3/13/23	1b. ALL PREVIOUS RELATED 1b. ALL PREVIOUS RELATED 1c. related) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 <td>Changes Without Changes Without Changes Without Changes Without Code Regs., title 1, §100) Print Only Cal. Code Regs. title 1, §44 and Gov. Code §11347.1) Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Go</td>	Changes Without Changes Without Changes Without Changes Without Code Regs., title 1, §100) Print Only Cal. Code Regs. title 1, §44 and Gov. Code §11347.1) Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Gov. Code §11347.1] Cal. Code Regs. title 1, §44 and Go	

ENCORSED - FILEC In the office of the Security of Plate of the Sterior

APR 1.5 MIX

ENDORSED APPROVED

NPE 2 - 2023

Office of Administrative Law

Regulatory Language

California Code of Regulations Title 20. Public Utilities and Energy Division 2. State Energy Resources Conservation and Development Commission Chapter 4. Energy Conservation Article 4. Appliance Efficiency Regulations Sections 1601-1609

§ 1601. Scope.

This Article applies to the following types of new appliances, if they are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the state and those designed and sold exclusively for use in recreational vehicles, or other mobile equipment. Unless otherwise specified, each provision applies only to units manufactured on or after the effective date of the provision.

NOTE: For the applicability of these regulations to appliances installed in new building construction, see sections 110.0 and 110.1 of part 6 of Title 24 of the California Code of Regulations.

...[skipping (a) through (m)]

(n) Luminaires, which are torchieres, metal halide luminaires, portable luminaires, under-cabinet luminaires, and includes luminaires with GU24 socket and base configurations and GU24 adaptors.

...[skipping the rest of section 1601]

Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c), and 25960, Public Resources Code; and Sections 16, 26, and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015). Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c), 25402.5.4, and 25960, Public Resources Code; and Section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

§ 1602. Definitions.

...[skipping (a) through (m)]

(n) Luminaires and Torchieres.

"Art work luminaire" means a luminaire designed only to be mounted directly to art work only for the purpose of illuminating that art work.

"Automatic daylight control" is a control that automatically reduces lighting in response to available daylight. This control typically uses photosensors to detect changes in daylight illumination and then change the electric lighting level in response to the daylight changes.

"Dedicated fluorescent lamp socket" means one of the ANSI designated type of fluorescent lamp-sockets that will accept only a compact or linear fluorescent lamp, and that is used in luminaires where the ballast is permanently installed in the luminaire between the power cord and the lamp socket. "Dedicated fluorescent lamp socket" does not include sockets where the ballast is located between the socket and the lamp, or where the ballast is integrated into the lamp.

"E12 screw-based socket" means an ANSI designation for a screw-base socket commonly referred to as a candelabra screw-base.

<u>"E17 screw-based socket" means an ANSI designation for a screw-base socket commonly</u> referred to as an intermediate screw-base.

"E26-screw-based socket" means an ANSI designation for a screw-base socket commonly referred to as a medium-screw-base.

"General lighting application" means lighting that provides an interior or exterior area with overall illumination.

"GU24" means the designation of a lamp holder and socket configuration, based on a coding system by the International Energy Consortium: "G" indicates the broad type of two or more projecting contacts, such as pins or posts; "U" distinguishes between lamp and holder designs of similar type that are not interchangeable due to electrical or mechanical requirements; and "24" indicates 24 millimeter center to center spacing of electrical contact posts."

"GU24 adaptor" means a one-piece device, pig-tail, wiring harness, or other such socket/base attachment that connects to a GU24 socket on one end and provides a different type of socket or connection on the other end; a GU24 adaptor does not alter the voltage. A fluorescent ballast with a GU24 base is not a GU24 adaptor.

"High frequency electronic ballast" means a fluorescent lamp ballast having an output frequency of no less than 20kHz. "Fluorescent lamp ballast" is defined in section 1602(j) of this Article.

"Indoor metal halide luminaire" is a metal halide luminaire that is not an outdoor metal halide luminaire.

"Integral control" means a fully functional occupancy sensor or automatic daylight control system for which all required components for an integral control, including control devices, sensors, and wiring, are factory installed, packaged and sold with each individual luminaire, and are integrated into each individual luminaire at the factory in one of the following three methods:

- (1) is integrated directly into the luminaire housing and hardwired to the lighting system; or
- (2) is pre-wired to allow proper functionality between the control and luminaire, and to allow remote mounting of the control. One end of the wiring shall be pre-wired to the luminaire, and the other end shall be prewired to the control. The wiring may be either a metal or fiber conductor. The wiring may allow temporary disconnection in the field to allow remote mounting of the control; or
- (3) is pre-wired with a wireless radio controlled sensor to allow proper functionality between the control and luminaire, and to allow interaction with the wireless control signal in the lighting system.

"Lamp-ballast system efficiency" means the efficiency of a lamp and ballast combination expressed as a percentage and calculated by dividing the output circuit lamp power by the input circuit power as measured in accordance with ANSI C82.6-2005 (American National Standard for Ballasts for High-Intensity Discharge Lamps -- Methods of Measurement).

"LED array or module" means an assembly of LED packages (components), or dies on a printed circuit board or substrate, possibly with optical elements and additional thermal, mechanical, and electrical interfaces that are intended to connect to the load side of a LED driver. Power source and ANSI standard base are not incorporated into the device. The device cannot be connected directly to the branch circuit.

"LED lamp, integrated" means an integrated assembly comprised of LED packages (components) or LED arrays (modules), LED driver, ANSI standard base and other optical, thermal, mechanical and electrical components. The device is intended to connect directly to the branch circuit through a corresponding ANSI standard lamp holder (socket)

"LED lamp, non-integrated" means an assembly comprised of an LED array (module) or LED packages (components) and an ANSI standard base. The device is intended to connect to the LED driver of an LED-luminaire through an ANSI standard lamp-holder (socket). The device cannot be connected directly to the branch circuit.

"LED luminaire" means a complete lighting unit consisting of LED-based light emitting elements and a matched driver together with parts to distribute light, to position and protect the light emitting elements, and to connect the unit to a branch circuit. The LEDbased lighting emitting elements may take the form of LED packages (components), LED arrays (modules), or LED lamps. The LED luminaire is intended to connect directly to a branch circuit.

"LED package" means an assembly of one or more LED dies that includes wire bond or other type of electrical connections, possibly with an optical element and thermal, mechanical, and electrical interfaces. Power source and ANSI standardized base are not incorporated into the device. The device cannot be connected directly to the branch circuit.

"Luminaire efficacy" for LEDs means the luminous efficacy of the LED luminaire, or of the LED light engine with integral heat sink, when tested in accordance with IES LM-79-08.

"Metal halide ballast" means a ballast used to start and operate metal halide lamps.

"Metal halide lamp" means a high-intensity discharge lamp in which the major portion of the light is produced by radiation of metal halides and their products of dissociation, possibly in combination with metallic vapors. "Metal halide lamp fixture" or "Metal halide luminaire" means a light fixture for general lighting application designed to be operated with a metal halide lamp and a ballast for a metal halide lamp.

"Nonpulse-start electronic ballast" means an electronic ballast with a starting method other than pulse-start.

"Occupant sensor, lighting" means a device that automatically reduces lighting or turns lights off soon after an area is vacated.

"Outdoor metal halide luminaire" means a metal halide luminaire that is UL 1598 Wet Location Listed and labeled "Suitable for Wet Locations" as specified by the National Electrical Code 2005, Section 410.4(A).

"Portable floor luminaire" means a portable luminaire designed to be located on the floor and not located on a table, desk, or other structure above the floor.

"Portable luminaire" means a luminaire that has a flexible cord and an attachment plug for connection to a nominal 120-volt, 15- or 20-ampere branch circuit; that allows the user to relocate the luminaire without any rewiring; that are typically controlled with a switch located on the luminaire itself or on the power cord; and that are intended for use in accordance with the National Electrical Code, ANSI/NFPA 70-2002. Portable luminaire does not include any of the following:

(1)-direct-plug-in nightlights;

- (2) sun and heat lamps;
- (3) aquarium lamps;
- (4) medical and dental lights;
- (5) portable electric hand-lamps;
- (6)-signs and commercial advertising displays;
- (7) photographic lamps;
- (8) germicidal-lamps;
- (9) illuminated vanity mirrors;
- (10) lava-lamps not-providing general or task illumination;
- (11) industrial work-lights rated for use with lamps providing greater than 7,000 lumens;
- (12) portable luminaires for marine use or for use in hazardous locations as defined in the National Electrical Code, ANSI/NFPA 70;
- (13) Christmas tree and decorative lighting outfits or electric candles and candelabras without lamp shades that are covered by the Standard for Christmas Tree and Decorative Outfits, UL 588.

"Portable table luminaire" means a portable luminaire designed to be located on a table, desk, or other structure above the floor.

"Probe-start metal halide ballast" means a ballast that:

- (1) starts a probe-start metal halide lamp that contains a third starting electrode (probe) in the arc tube; and
- (2) does not generally contain an igniter but instead starts lamps with high ballast open circuit voltage.

"Pulse-start metal halide ballast" means an electronic or electromagnetic ballast that starts a pulse-start metal halide lamp with high voltage pulses. Lamps shall be started by first providing a high voltage pulse for ionization of the gas to produce a glow discharge. To complete the starting process, power shall be provided by the ballast to sustain an arc through a glow-to-arc transition.

"System input power rating" means the operating input wattage of the rated lamp/ballast combination published in manufacturer's catalogs based on independent testing lab reports as specified by "Standards for Luminaire" UL 1598.

"Torchiere" means a portable electric lamp with a reflector bowl that directs light upward to give indirect illumination.

"Under-cabinet luminaire" means a luminaire designed for mounting in, on, under, or within modular office furniture.

"Wall-mount adjustable luminaire" means a portable luminaire that is designed only to be mounted on a wall, having no base which will allow the luminaire to stand on a horizontal surface.

[end of (n)]

...[skipping (o) through (x)]

The following documents are incorporated by reference in section 1602.

Number

Title

...[skipping FEDERAL STATUTES AND REGULATIONS through HYDRAULIC INSTITUTE (HI)]

ILLUMINATING ENGINGEERING SOCIETY (IES)

IES LM-9-09

Electrical and Photometric Measurements of Fluorescent Lamps

IES LM-16-1993

IES-LM-79-08

IES Practical Guide to Colorimetry of Light Sources

Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

ANSI/IES RP-16-10

Copies available from:

Nomenclature and Definitions for Illuminating Engineering

Illuminating Engineering Society 120 Wall Street, 17th Floor New York, NY 10005-4001 www.ies.org Phone: (212) 248-5000 FAX: (212) 248-5017/18

...[skipping INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) through INTERNATIONAL TELECOMMUNICATION UNION (ITU)]

NATIONAL ELECTRIC CODE (NEC)

NFPA 20 (2016)

Standard for the Installation of Stationary Pumps for Fire Protection

ANSI/NFPA 70 (2002)

Copies available from:

NATIONAL FIRE PROTECTION ASSOCIATION 1 BATTERYMARCH PARK QUINCY, MA 02169-7471 www.nfpa.org PHONE: (617) 770-3000 FAX: (617) 770-0700

...[skipping NATIONAL ELECTRIC MANUFACTURERS ASSOCIATION (NEMA) through SOCIETY OF MOTION PICTURE AND TELEVISION ENGINEERS (SMPTE)]

National-Electrical Code

UNDERWRITERS LABS (UL)

ANSI/UL 448-2013Standard for Safety Centrifugal Stationary Pumps for Fire
Protection ServiceANSI/UL 705 (August 23, 2021)Standard for Safety for Power VentilatorsUL 588Standard for Seasonal and Holiday Decorative Products...[skipping the rest of section 1602]

Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code; and Sections 16, 26 and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015). Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c), 25402.5.4 and 25960, Public Resources Code; and Section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

§ 1604. Test Methods for Specific Appliances.

...[skipping (a) through (m)]

(n) Luminaires and Torchieres.

(1) Torchieres.

There is no test method for torchieres.

(2) Metal Halide Luminaires.

The test method for metal halide luminaires is ANSI C82.6-2005. Ballasts may be tested separately, outside the luminaire. A sample of at least five ballasts shall be tested for each lamp wattage for which the luminaire and ballasts are rated. The average of these tests shall be used for certification and compliance purposes.

Ballasts efficiency for High Intensity Discharge (HID) luminaire means the efficiency of a lamp and ballast combination expressed as a percentage and calculated by Efficiency = P_{out} / P_{in} , as measured. P_{out} is the measured operating lamp wattage and P_{in} is the measured operating input wattage.

The lamp, and the capacitor when it is provided, is to constitute a nominal system in accordance with ANSI C78.43-2004. P_{in} and P_{out} are to be measured after lamps have been stabilized according to Section 4.4 of ANSI C82.6-2005 using a wattmeter with accuracy

specified in Section 4.5 of ANSI C82.6-2005 for ballasts with a frequency of 60 Hz and shall have a basic accuracy of \pm 0.5 percent at the higher of (a.) three times the output operating frequency of the ballast, or (b.) 2 kHz for ballast with a frequency greater than 60 Hz.

(3) Under-Cabinet Luminaires.

The test method for under-cabinet luminaires is 10 C.F.R. 430.23(q) (Appendix Q to subpart B of part 430 (2015)).

(4) Portable Luminaires.

(A)-The test methods for LED luminaires using LED lamps are shown in section 1604(k)(3) of this Article.

(B) The test methods for LED luminaires using LED light engines are California Joint Appendix JA8 – 2008, "Testing of Light Emitting Diode Light Sources," or IES LM-79-08, "Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products," at manufacturer's option.

[end of (n)]

...[skipping (o) through (x)]

The following documents are incorporated by reference in section 1604.

CALIFORNIA ENERGY COMMISSION TEST METHODS

Ez California Title 24, part 6, Joint Q Appendix 8 JA-8 -- 2015

Exceptional Method (1996) New Compliance Option (1996) Qualification Requirements for High Efficacy Light Sources

Efficiency Calculation Method for Gas-Fired Heat Pumps as a

California Title 24, part 6, Joint Appendix 10 JA-10 -- 2015

California Joint Appendix JA8 -- 2008

CEC/Gas-Fired Heat Pumps

Copies available from:

Test Method for Measuring Flicker of Lighting Systems and Reporting Requirements

Testing of Light Emitting Diode Light Sources

CALIFORNIA ENERGY COMMISSION ENERGY HOTLINE <u>715 P STREET,1516 NINTH STREET</u>, MS-25 SACRAMENTO, CALIFORNIA 95814 PHONE: (916) 654-5106 FAX: (916) 654-4304

...[skipping FEDERAL TEST METHODS through HYDRAULIC INSTITUTE (HI)]

ILLUMINATING ENGINGEERING SOCIETY (IES)

⊞S-LM-79-08		Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products
IES LM-84-14	1	Measuring Luminous Flux and Color Maintenance of LED Lamps, Light Engines, and Luminaires.
IES TM-28 (2014)		Projecting Long-Term Luminous Flux Maintenance of LED Lamps and Luminaires

Copies available from:

ILLUMINATING ENGINEERING SOCIETY 120 WALL STREET, 17TH FLOOR NEW YORK, NY 10005-4001 WWW.IES.ORG PHONE: (212) 248-5000 FAX: (212) 248-5017/18

...[skipping the rest of section 1604]

Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code; and Sections 16, 26 and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015). Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code; and Section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

1605.3. State Standards for Non-Federally Regulated Appliances.

...[skipping (a) through (m)]

(n) Luminaires and Torchieres.

...[skipping (n)(1) through (n)(2)]

(3) Portable Luminaires.

(A) Portable-luminaires manufactured on or after January 1, 2010 shall meet one or more of the following requirements:

- 1. Be equipped with a dedicated fluorescent lamp socket connected to a high frequency electronic ballast contained within the portable luminaire;
- 2. Be equipped with one or more GU24 line-voltage sockets and not rated for use with incandescent lamps of any type, including line voltage or low voltage;
- 3. Be an LED luminaire or a portable luminaire with an LED light engine with integral heat sink, and comply with the minimum requirements shown in Table N-3;

Table	N-3
-------	-----

Minimum Requirements for Portable LED Luminaires, and Portable Luminaires with LED Light Engines with Integral Heat Sink

Criteria	Requirement
Minimum LED-Luminaire Efficacy	29-lumens/W
Minimum LED-Light Engine-Efficacy	40-lumens/W
Correlated Color Temperature (CCT)	2700K-through 5000K
Minimum Color-Rendering Index (CRI)	75
Power Factor (for luminaires labeled or sold for residential use)	≥ 0.70

4. Be equipped with an E12, E17, or E26 screw-based socket and be prepackaged and sold together with one screw-based compact fluorescent lamp or screwbased LED lamp for each screw-based socket on the portable luminaire. The compact fluorescent or LED lamps which are prepackaged with the portable luminaire shall be fully compatible with the luminaire controls, meaning that portable luminaires having a dimmer control shall be prepackaged with dimmable compact fluorescent or LED lamps, and portable luminaires having 3way controls shall be prepackaged with 3-way compact fluorescent or LED lamps. The compact fluorescent lamps which are prepackaged with the luminaires shall also meet the minimum energy efficiency levels established by ENERGY STAR[®] for compact fluorescent lamps in effect on December 31, 2008. The LED lamps required to be packaged with the luminaire shall comply with the minimum requirements for state-regulated LED lamps in sections 1601 through 1607 of this Article;

5. Be equipped with one or more single-ended, non-screw-based-halogen-lamp sockets-(line or low voltage), a dimmer-control or high low control, and be rated for a maximum of 100W.

EXCEPTIONS to Section 1605.3(n)(3) of this Article. The following portable luminaires are not required to be prepackaged and sold together with compact fluorescent or LED lamps:

- 1. Portable Wall Mount Adjustable Luminaires that meet all of the following requirements: Designed only to be mounted on a wall, having no base which will allow the luminaire to stand on a horizontal surface, having an articulated arm, having a maximum overall length of 24 inches in any direction, fitted only with a single E12, E17 or E26 lamp socket per luminaire, and controlled with an integral dimmer. Luminaires manufactured on or before December 31, 2011 shall have a maximum relamping rated wattage of 57 watts, and luminaires manufactured on or after January 1, 2012 shall have a maximum relamping rated wattage of 43 watts, as listed on a permanent pre-printed factory-installed label in accordance with Underwriters Laboratories (UL) 153.
- 2. Art Work Luminaires that meet all of the following requirements: Designed only to be mounted directly to art work only for the purpose of illuminating that art work, fitted only with E12 screw-base line-voltage sockets, having no more than three sockets per luminaire, and controlled with an integral high/low switch. Luminaires with a single socket shall have a maximum relamping rated wattage of 25 watts, and luminaires with two or three sockets shall have a maximum relamping rated wattage of 15 watts per socket, as listed on a permanent pre-printed factory-installed label in accordance with Underwriters Laboratories (UL) 153.
- (B) Portable luminaires that have internal power supplies shall have zero standby power when the luminaire is turned off.
- (4)(3) **GU24 adaptors.** GU24 adaptors manufactured on or after January 1, 2010 shall not adapt a GU24 socket to any other line voltage socket.
- (5)(4) See section 1605.1(n) of this Article for energy efficiency standards for federally regulated metal halide lamp fixtures manufactured on or after January 1, 2009, and torchieres.

[end of (n)]

...[skipping (o) through (x)]

The following documents are incorporated by reference in section 1605.3.

Number

Title

...[skipping FEDERAL REQUIREMENTS through CANADIAN STANDARDS ASSOCIATION (CSA)]

UNDERWRITERS LABORATORIES, INC. (UL)

UL 153

Portable Luminaires

UL 1029-2001

Copies available from:

Standard for High-Intensity-Discharge Lamp Ballasts

UNDERWRITERS LABORATORIES, INC. 333 PFINGSTEN ROAD NORTHBROOK, IL 60062-2096 www.ul.com PHONE: (847) 272-8800 FAX: (847) 272-8129

UNITED STATES DEPARTMENT OF ENERGY

International Efficiency Marking Protocol for External Power Supplies Version 3.0 (September 2013)

Copies available from:

US DEPARTMENT OF ENERGY OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY, FORRESTAL BUILDING, MAIL STATION EE-2J 1000 INDEPENDENCE AVE SW WASHINGTON, DC 20585-0121 202-586-5000 www.energy.gov

Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code; and Sections 16, 26, and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015). Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code; and Section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

§ Section 1606. Filing by Manufacturers; Listing of Appliances in the MAEDbS.

(a) Filing of Statements.

Each manufacturer shall electronically file with the Executive Director through the MAEDbS a statement for each appliance that is sold or offered for sale in California. The statement shall contain all of the information described in paragraphs (2) through (4) of this subsection and shall meet all of the requirements of paragraph (1) of this subsection and all other applicable requirements in this Article.

The effective dates of this section shall be the same as the effective dates shown in section 1605.1, 1605.2 or 1605.3 of this Article for appliances for which there is an energy efficiency, energy consumption, energy design, water efficiency, water consumption, or water design standard in section 1605.1, 1605.2, or 1605.3 of this Article. For appliances with no energy efficiency, energy consumption, energy design, water efficiency, water efficiency, water consumption, or water design standard in section 1605.1, 1605.2, or 1605.3 of this Article. For appliances with no energy efficiency, energy consumption, energy design, water efficiency, water consumption, or water design standard in section 1605.1, 1605.2, or 1605.3 of this Article, water consumption, or water design standard in section 1605.1, 1605.2, or 1605.3, or 1605.

the effective date of this section shall be one year after they are added to section 1601 of this Article, unless a different effective date is specified.

EXCEPTIONS to Section 1606(a) of this Article: Section 1606(a) of this Article is not applicable to:

- 1. external power supplies,
- 2. small electric motors,
- 3. à la carte chargers meeting the EXCEPTION noted in section 1605.3(w)(2) of this Article, or
- 4. general service lamps.

...[skipping (a)(1) through (a)(2)]

(3) Testing and Performance Information.

...[skipping (a)(3)(A) through (a)(3)(D)]

Appliance	Required Information	Permissible Answers
	* Manufacturer's Name	
All Appliances	* Brand Name	
	* Model Number	
	Date model to be displayed	· · · ·
	Regulatory Status	Federally regulated consumer product, federally regulated commercial and industrial equipment, non-federally regulated

Table XData Submittal Requirements

...[skipping A "Non-Commercial Refrigerators, Non-Commercial Refrigerator-Freezers, Non-Commercial Freezers" through M "Traffic Signal Modules for Pedestrian Control"]

-			
	Appliance	Required Information	Permissible Answers
N	Torchieres	*Lamp Type of Upward-Facing Lamp(s)	Screw-based Incandescent, Halogen, Fluorescent Pin-based, Other (specify)
		*Lamp Type of Side Lamp(s)	Screw-based Incandescent, Halogen, Fluorescent Pin-based, Other, None (specify)
	2 °	Total Number of Lamp Sockets	•
		Maximum Possible Power Demand, All Sockets (watts)	
		Method of Insuring 190 Watt Maximum Power Consumption	Current-limiting Device, Thermal Switch, Other (specify)
1		Type of Portable-Luminaire	Floor, table, other (specify)
	Portable Luminaires	Total-Number of lamp sockets	
		Base type	Candelabra-base, intermediate base, medium screw-base, pin-base; other (specify)

Table X Continued - Data Submittal Requirements

<u> </u>		Compliance method used	Dedicated fluorescent lamp socket;
			GU24 IING-VOILage Sockel;
			ED luminalie of light engine,
		- -	EIZ, EI/, OI EZU SUIEW-Dased-SUCKEL
1			w/ prepackaged-lamp;
			Halogen lamp socket w/ controls
	- -	Zero standby-power (for luminaires with	True, False
		internal power supplies only)	
		GU24 sockets rated (for use with	True, False
		incandescent lamps for luminaires with	
		GU24 sockets only)	и
		LED Light Output (for LED luminaires	
		only)	
		LED Efficacy (for LED luminaires only)	
		Nominal Correlated Color Temperature	
1		(for LED luminaires only)	
		Color Rendering Index (for LED	
		luminaires only)	
		Power Factor (for LED-luminaires labeled	
	· · · · · · · · · · · · · · · · · · ·	or sold for residential use only)	

* "Identifier" information as described in section 1602(a) of this Article. 1 = Voluntary for federally regulated appliances

2 = Voluntary for state-regulated appliances

...[skipping the rest of Table X]

(4) Declaration.

- (A) Each statement shall include a declaration, executed under penalty of perjury of the laws of California, that
 - 1. all the information provided in the statement is true, complete, accurate, and in compliance with all applicable provisions of this Article;
 - 2. the requirements of section 1606(g) of this Article have been and are being complied with;
 - 3. for appliances for which there is an energy efficiency, energy consumption, energy design, water efficiency, water consumption, or water design standard in section 1605.1, 1605.2, or 1605.3 of this Article, that the appliance complies with the applicable standards;
 - 4. the appliance was tested under the applicable test method specified in section 1604 of this Article, and, for the following appliances, was tested as follows:
 - a. for other self-contained commercial refrigerators, refrigerator-freezers, and freezers with doors that are pass-through and roll-through refrigerators and freezers, that the back (loading) doors remained closed throughout the test;
 - b. for all refrigerators, refrigerator-freezers, and freezers were tested using alternating current electricity only;
 - c. for all split system central air conditioners and compressor-containing units, these models were tested with the combination of compressor-containing and non-compressor containing unit specified in 10 C.F.R. section 429.16(b)(2);
 - d. for all gas-fired air conditioners and gas-fired heat pumps, all appliances were tested to ANSI Z21.40.4-1996 as modified by CEC, Efficiency Calculation method for Gas-Fired Heat Pumps as a New Compliance Option (1996);

- e. for evaporative coolers, all appliances were tested to the applicable test method referenced in Table D-3 with the modifications appearing in Table D-3;
- f. for whole house fans, all appliances were tested to HVI-916, and if equipped with louvers were tested with manufacturer-provided louvers in place;
- g. for battery charger systems for which certification is based on testing of representative battery charger system models, the models tested as representative are those known or expected to have the poorest performance characteristics such that the data generated meets the requirements of section 1606(a)(3)(D) of this Article for all associated models; and
- h. for kitchen faucets that utilize an optional and temporary higher flow rate than 1.8 gpm, the higher flow rate has been tested utilizing the test procedure identified for kitchen faucets in section 1604(h) of this Article at 60 psi and verified to have a flow rate less than or equal to 2.2 gpm.
- i. Ffor state-regulated compressors that are rated using an alternative efficiency determination method (AEDM) in lieu of testing, that the represented value of efficiency, consumption, or other non-energy metrics for the basic model was determined through the alternative efficiency determination method specified in section 1604(s) of this Article.

EXCEPTIONS to section 1606(a)(4)(A)4 of this Article: Section 1606(a)(4)(A)4 of this Article is not applicable to the following types of appliances that have no test methods found in section 1604 of this Article:

- (1) federally regulated organic light emitting diode (OLED) lamps,
- (2) federally regulated candelabra base incandescent lamps,
- (3) federally regulated intermediate base incandescent lamps,
- (4) traffic signal lamps, and
- (5) torchieres., and
- (6) portable luminaires showing compliance with Sections 1605.3(n)(3)(A)1., 1605.3(n)(3)(A)2., or 1605.3(n)(3)(A)5. of this Article.

...[skipping the rest of section 1606]

Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code; and Sections 16, 26, and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015). Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c), 25402.5.4 and 25960, Public Resources Code; and Section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).





IES LM-79-08

Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

STREAD DIG

In restard, data searches de construition, a sinical de la Distriction de la definizional de calaboration estal de des searces in otre content sinich consoletor en la definition de la definition de la terminate de la consoletor en consolet plante de solitions and search for en la solition de la constante de terminate de la constante estal promove plante de solitions de la State No. En estas ano particular de la constante de terminate de la constant promove de la constante de promove de la constante de rescondorse terminate de la constante de

The issues of power of the following and the power entropy completions with the contents of the content o

REPEAL

NFPA 70 National Electrical Code 2002 Edition

An International Electrical CodeTM Series



NFPA, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101 An International Codes and Standards Organization

NFPA License Agreement

This document is copyrighted by the National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02269-9101 USA. All rights reserved.

NFPA grants you a license as follows: The right to download an electronic file of this NFPA document for temporary storage on one computer for purposes of viewing and/or printing one copy of the NFPA document for individual use. Neither the electronic file nor the hard copy print may be reproduced in any way. In addition, the electronic file may not be distributed elsewhere over computer networks or otherwise. The hard copy print may only be used personally or distributed to other employees for their internal use within your organization.

JA8-1

Joint Appendix JA8 – 2008

Appendix JA8 – Testing of Light Emitting Diode Light Sources

JA8.1 Scope

The testing methods in this appendix shall be used to determine wattage, luminous flux, and efficacy for all light emitting diode (LED) Luminaries, and LED light Engines with Integral Heat Sink. Each device tested shall produce the same quantity and quality of light. LED Luminaires or LED Light Engines with Integral Heat Sink producing different Correlated Color Termperature (CCT), Color Rendering Index (CRI), total flux (per linear foot for linear systems) or other quantitative and qualitative differences in light shall be separately tested.

The power (wattage) of luminaires and integral trims containing only LED light sources shall be determined in accordance with JA 8. 2. For luminaires containing LED light sources in addition to one or more other lighting technologies (i.e., Hybrid LED Luminaires), the power of the LED Light Engines with Integral Heat Sink shall be determined in accordance with JA 8. 2, and the power of non-LED lighting components shall be determined in accordance with Title 24, Part 6, § 130(d)(1, 2, 3, 4, or 6) as appropriate.

The light output (luminous flux) of the luminaires and integral trims containing only LED light sources shall be determined in accordance with JA 8.3. For luminaires containing LED light source in addition to one or more other lighting technologies (i.e., Hybrid LED Luminaires), the light output of the LED Light Engine with Integral Heat Sink shall be determined in accordance with JA 8.3.

The efficacy of luminaires and integral trims containing only LED light sources shall be determined in accordance with JA 8. 4. For luminaires containing LED Light Engines with Integral Heat Sink in addition to one or more other lighting technologies, the efficacy of the LED Light Engines with Integral Heat Sink shall be determined in accordance with JA 8. 4, and the efficacy of non-LED lighting components shall be determined in accordance with Title 24, Part 6, § 150(k)(1 and 2).

JA8.2 Determining the Wattage of Light Emitting Diode (LED) Luminaires or LED Light Engine with Integral Heat Sink

The wattage of LED Luminaire or LED Light Engines with Integral Heat Sink shall be measured as follows, or by a method approved by the Executive Director:

- a. The wattage shall be the maximum rated input wattage of the device under test, including power used by fans, transformers and power supply devices, and
- b. The wattage shall be listed on a permanent, pre-printed, factory-installed label on the luminaire housing, or on the integral LED trim when applicable, and
- c. The device under test shall be tested in a Underwriters Laboratory (UL) 1598 testing apparatus in a testing laboratory accredited to ISO/IEC 17025 by the National Voluntary Laboratory Accreditation Program (NVLAP) or other laboratory accreditation body operating in accordance with ISO/IEC 17011 and produced under an ongoing inspection program carried out by a Type A inspection body in accordance with ISO/IEC 17020, accredited to ISO/IEC 17020 by an accreditation body operating in accordance with ISO/IEC 17011; and
- d. The device under test shall be tested according to all of the following conditions:
 - 1. The ambient temperature in which measurements are being taken shall be maintained at $25^{\circ}C \pm 1^{\circ}C$.



UL 153

0-7629-0518-2

Portable Electric Luminaires

1

1



UL 588

ISBN 0-7629-0589-1

Seasonal and Holiday Decorative Products

